

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	BOX PATENT APPLICATION
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Serguei ZHDANOK et al)	Group Art Unit: Not Assigned
)	
Application No.: Not Assigned)	Examiner: Not Assigned
)	
Filed: April 13, 2001)	
)	
For: PROCESS FOR THE)	
PRODUCTION OF A MIXTURE)	
COMPRISING HYDROGEN AND)	
CO)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination on the merits, kindly amend the above-identified
application as follows:

IN THE SPECIFICATION:

Please amend the Specification as follows:

Page 1, before line 1, please insert

--BACKGROUND OF THE INVENTION

Field of the Invention--.

Page 1, before line 5, please insert

--Description of the Related Art--.

Page 7, before line 30, please insert

--SUMMARY OF THE INVENTION--

Page 11, before line 7, please insert

**--BRIEF DESCRIPTION OF THE
FIGURES OF THE DRAWINGS--**

Page 11, before line 18, please insert

**--DETAILED DESCRIPTION OF
THE PREFERRED EMBODIMENTS--**

IN THE CLAIMS:

Please amend Claims 4, 5, 6 and 7 as follows:

4. (Amended) Process according to Claim 2, characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed and said second inert porous material within a vertical cylindrical reactor, the ends of which are filled with one or other of said inert porous materials and the central part of which is filled with said catalytic bed, and in that the reactor is fed in alternate mode in the following way:

- i) the reaction gas mixture is introduced in the lower part of the reactor and the mixture comprising the hydrogen and the CO is collected at the upper part of the reactor, or
- ii) the reaction gas mixture is introduced in the upper part of the reactor and the mixture comprising the hydrogen and the CO is collected at the lower part of the reactor,

passing from one of the introduction modes ((i) (ii)) to the other as a function of the advance of the combustion front inside the reactor.

5. (Amended) Process according to Claim 1, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

6. (Amended) Process according to Claim 1, characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.

7. (Amended) Process according to Claim 2, characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed and said second inert porous material within a reactor exhibiting the following arrangement:

- a first cylinder comprising, at its lower end, means for introducing said reaction gas mixture;

- a second cylinder of smaller diameter than said first cylinder, inserted into said first cylinder so that its upper end is situated at a distance from the upper end of the first cylinder and so that its lower end, via which the mixture comprising the hydrogen and the CO is collected, emerges outside the first cylinder;

- said first inert porous material filling at least a portion of the height of the annular space defined by the internal wall of the first cylinder and the external wall of the second cylinder;

- said catalytic bed filling the upper part of the first cylinder and/or that of the second cylinder;

- said second inert porous material filling the lower part of the second cylinder.

Please add the following new Claims 10-17:

--10. Process according to Claim 3, characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed and said second inert porous material within a vertical cylindrical reactor, the ends of which are filled with one or other of said inert porous materials and the central part of which is filled with said catalytic bed, and in that the reactor is fed in alternate mode in the following way:

i) the reaction gas mixture is introduced in the lower part of the reactor and the mixture comprising the hydrogen and the CO is collected at the upper part of the reactor, or

ii) the reaction gas mixture is introduced in the upper part of the reactor and the mixture comprising the hydrogen and the CO is collected at the lower part of the reactor,

11. Process according to Claim 2, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

12. Process according to Claim 3, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

14. Process according to Claim 3, characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.

15. Process according to Claim 3, characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed and said second inert porous material within a reactor exhibiting the following arrangement:

- a first cylinder comprising, at its lower end, means for introducing said reaction gas mixture;
- a second cylinder of smaller diameter than said first cylinder, inserted into said first cylinder so that its upper end is situated at a distance from the upper end of the first cylinder and so that its lower end, via which the mixture comprising the hydrogen and the CO is collected, emerges outside the first cylinder;
- said first inert porous material filling at least a portion of the height of the annular space defined by the internal wall of the first cylinder and the external wall of the second cylinder;
- said catalytic bed filling the upper part of the first cylinder and/or that of the second cylinder;
- said second inert porous material filling the lower part of the second cylinder.

16. Process according to Claim 15, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

17. Process according to Claim 15, characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.--

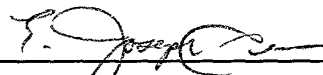
REMARKS

Entry of the foregoing and favorable consideration of the subject application are respectfully requested. The foregoing amendments have been made in order to remove multiple dependencies from the claims, and to add appropriate headings into the specification consistent with U.S. practice.

If there are any questions concerning this paper of the application in general, the Examiner is invited to telephone the undersigned at his or her earliest convenience.

Respectfully submitted,

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Attachment to PRELIMINARY AMENDMENT dated April 13, 2001

Marked-up Claims 4, 5, 6 and 7

Please amend Claims 4, 5, 6 and 7 as follows:

4. (Amended) Process according to Claim 2 [Claim 2 or 3],

characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed [(5)] and said second inert porous material [(6)] within a vertical cylindrical reactor [(1)], the ends of which are filled with one or other of said inert porous materials and the central part of which is filled with said catalytic bed [(5)], and in that the reactor is fed in alternate mode in the following way:

i) the reaction gas mixture is introduced in the lower part of the reactor [(1)] and the mixture comprising the hydrogen and the CO is collected at the upper part of the reactor [(1)], or

ii) the reaction gas mixture is introduced in the upper part of the reactor [(1)] and the mixture comprising the hydrogen and the CO is collected at the lower part of the reactor [(1)],

passing from one of the introduction modes ((i) (ii)) to the other as a function of the advance of the combustion front inside the reactor.

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Marked-up Claims 4, 5, 6 and 7

5. (Amended) Process according to Claim 1 [one of Claims 1 to 4], characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

6. (Amended) Process according to Claim 1 [one of Claims 1 to 4], characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.

7. (Amended) Process according to Claim 2 [either of Claims 2 and 3], characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed [(5)] and said second inert porous material [(6)] within a reactor exhibiting the following arrangement:

- a first cylinder [(40)] comprising, at its lower end, means [(41)] for introducing said reaction gas mixture;

- a second cylinder [(42)] of smaller diameter than said first cylinder, inserted into said first cylinder [(40)] so that its upper end is situated at a distance from the upper end of the first cylinder [(40)] and so that its lower end, via

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Marked-up Claims 4, 5, 6 and 7

which the mixture comprising the hydrogen and the CO is collected, emerges
outside the first cylinder [(40)];

- said first inert porous material [(43)] filling at least a portion of
the height of the annular space defined by the internal wall of the first cylinder [(40)]
and the external wall of the second cylinder [(42)];

- said catalytic bed [(44)] filling the upper part of the first cylinder
[(40)] and/or that of the second cylinder [(42)];

- said second inert porous material [(45)] filling the lower part of
the second cylinder [(42)].

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